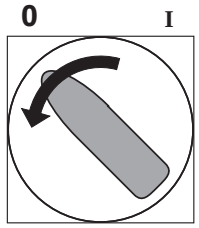
HEIDENHAIN

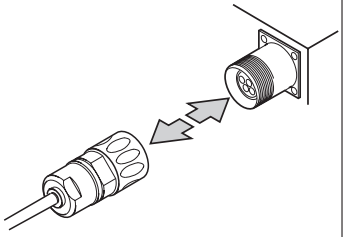
Montageanleitung
*Mounting Instructions*
Instructions de montage
*Istruzioni di montaggio*
Instrucciones de montaje

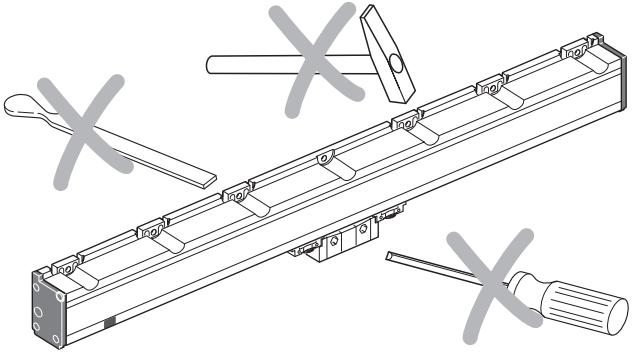
**LC 181 EnDat**

**1/2002**

**DIN EN 100 015 – 1**
**CECC 00015 – 1**





**Maße in mm**
***Dimensions in mm***
**Cotes en mm**
***Dimensioni in mm***
**Dimensiones en mm**

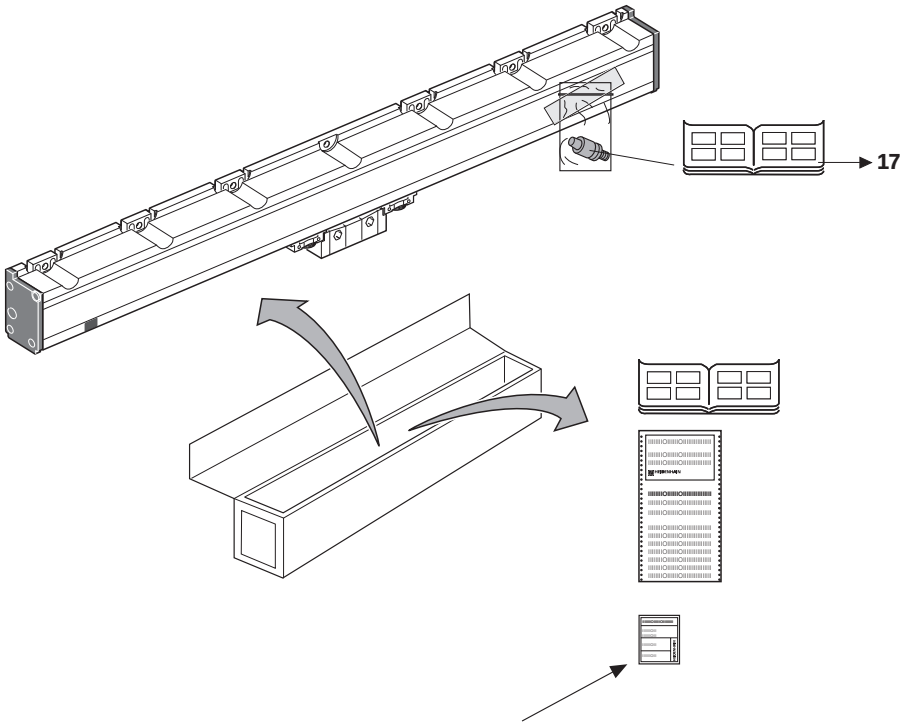
Die Inbetriebnahme des LC 181 erfordert eine richtige Parametrierung des Messgerätes (Gefahr von Sach- und Personenschäden). Zur richtigen Parametrierung nehmen Sie bitte Kontakt zum Hersteller der Maschine auf.

*The parameters of the LC 181 must be correctly configured for proper function. Improper configuration may result in damage to the equipment or even personal injury. Please contact the machine manufacture for the correct parameter configuration.*

La mise en route du LC 181 nécessite un paramétrage correct du système de mesure (risque matériels et corporels). Pour effectuer le paramétrage correctement, prenez S.V.P. contact avec le constructeur de la machine.

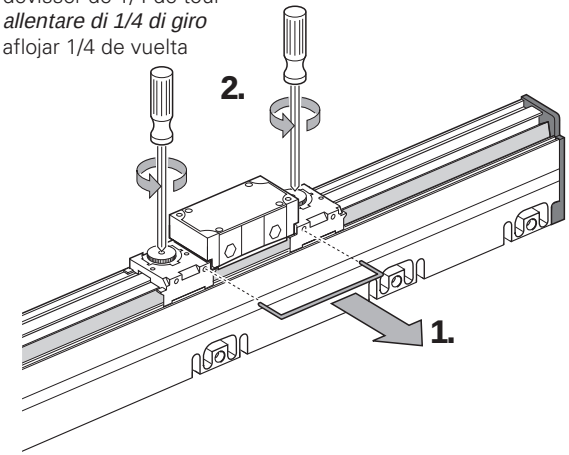
*La messa in funzione della LC 181 richiede una corretta parametrizzazione del sistema di misura (rischio di danni alle cose e alle persone). Per una corretta parametrizzazione mettersi in contatto con il costruttore della macchina.*

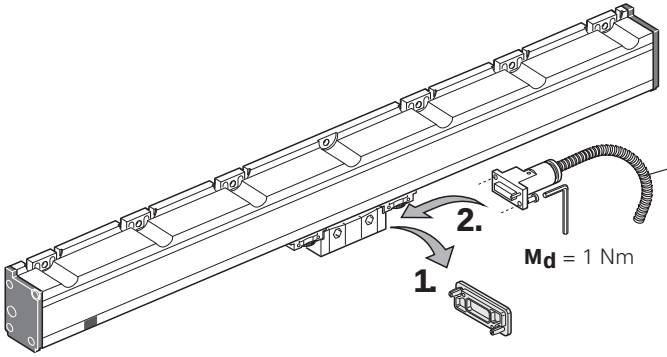
La puesta en marcha de la LC 181 requiere una parametrización correcta del sistema de medida (peligro de daños en cosas y personas). Para la parametrización correcta contacten con el constructor de la máquina.



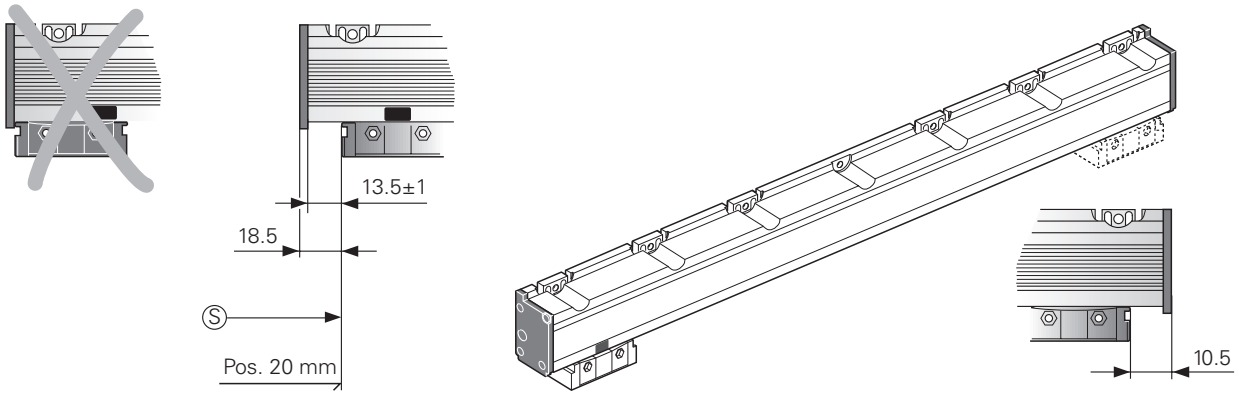

Bei Montage bitte Geräteschild-Aufkleber anbringen (Schaltschrank, Maschinen-Handbuch usw.)
*Apply the encoder ID label to an appropriate surface, e.g. the electrical cabinet or machine manual*
lors du montage, accoler S.V.P. l'étiquette signalétique de l'appareil (armoire électrique, manuel de la machine, etc.)
*completato il montaggio, ricordarsi di applicare l'etichetta (manuale della macchina, quadro elettrico)*
por favor, durante el montaje, colocar el adhesivo del letrero del aparato (armario eléctrico, modo de empleo de la máquina, etc.)

1/4 Umdrehung lösen
*Loosen by 1/4 revolution*
dévisser de 1/4 de tour
*allentare di 1/4 di giro*
aflojar 1/4 de vuelta

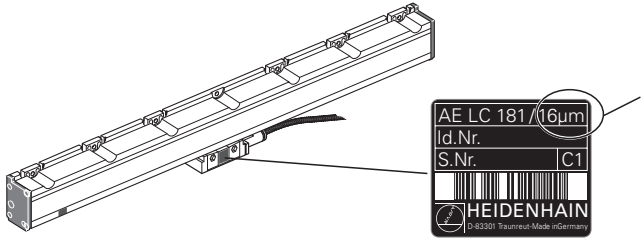


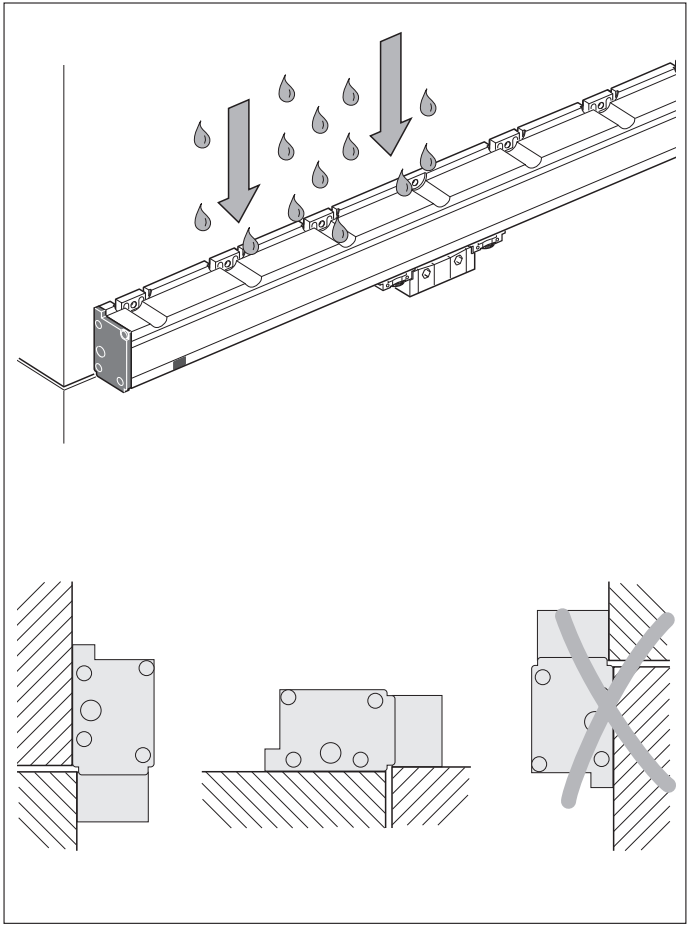

Separat bestellen
*Order Separately*
Commander séparément
*Ordinare separatamente*
Pedir por separado

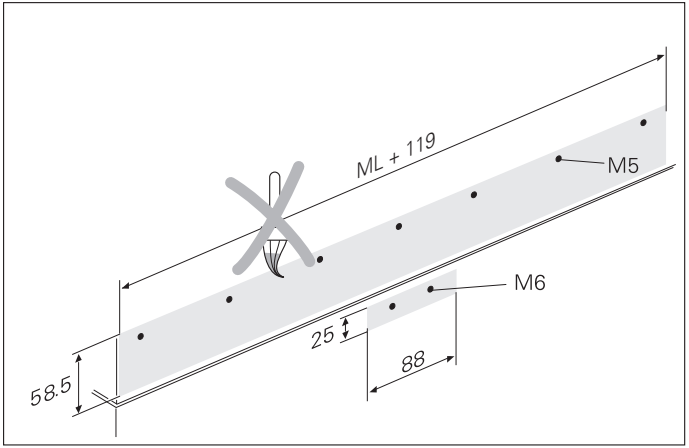


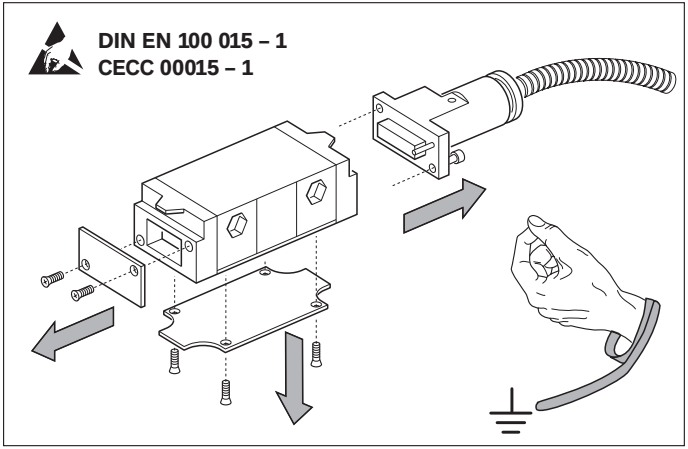

Ⓢ = Der Absolutwert beim Beginn der Messlängen beträgt 20 mm. Je nach Auflösung errechnet sich der Positionswert.
*At the beginning of the measuring lengths, the absolute value is 20 mm. The calculated position value depends on the resolution.*
La valeur absolue au début des longueurs de mesure est de 20 mm. La valeur de position est calculée en fonction de la résolution.
*All'inizio della corsa utile, il valore assoluto della posizione è di 20 mm. Il calcolo del valore di posizione dipende dalla risoluzione.*
Al comienzo del curso útil, el valor absoluto es de 20 mm de los extremos. El valor de posición se calcula en función de la resolución.

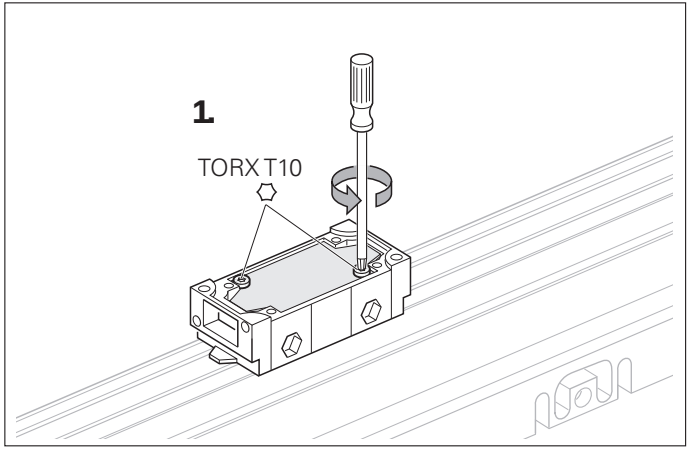


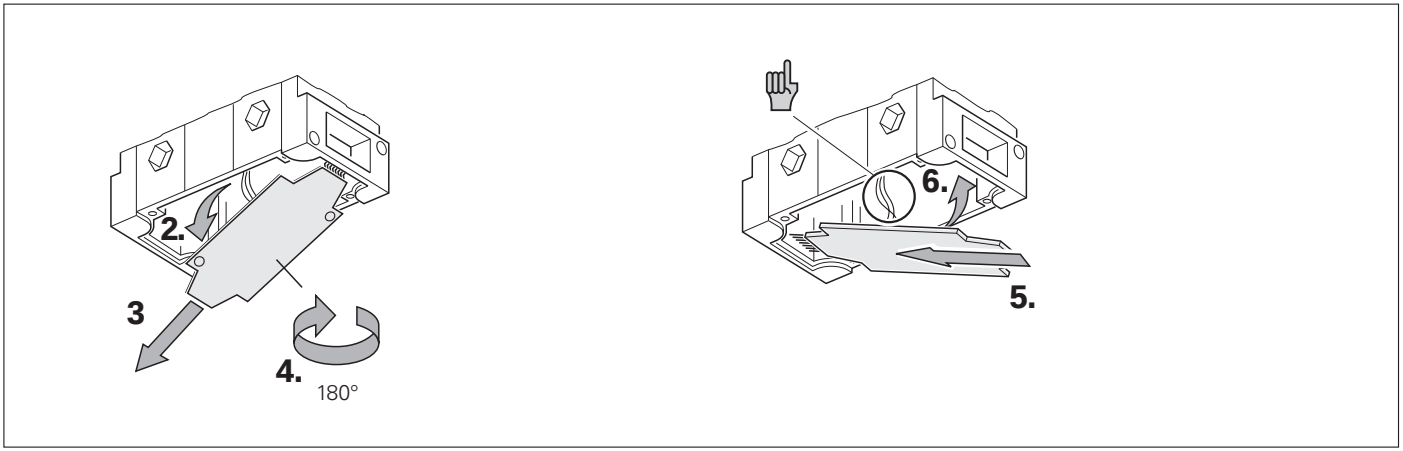

Signalperiode z.B. 16 µm
*Signal period e.g. 16 µm*
Période de signal ex.16 µm
*Periodo del segnale ad. es. 16 µm*
Periodo de señal p.ej. 16 µm

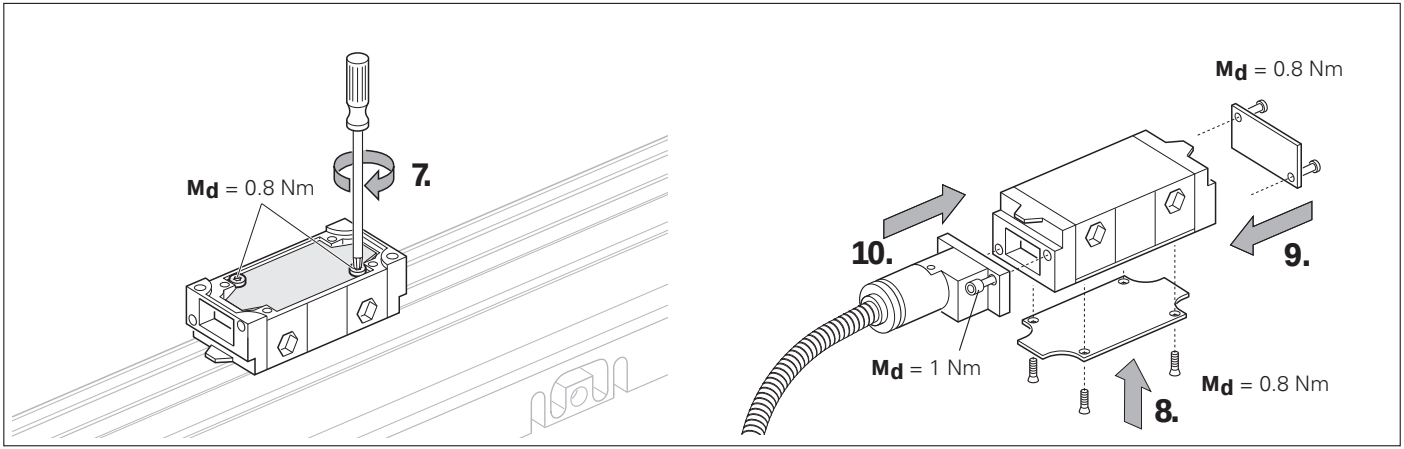



ML + 119
M5
M6
25
88
58.5


DIN EN 100 015 – 1
CECC 00015 – 1

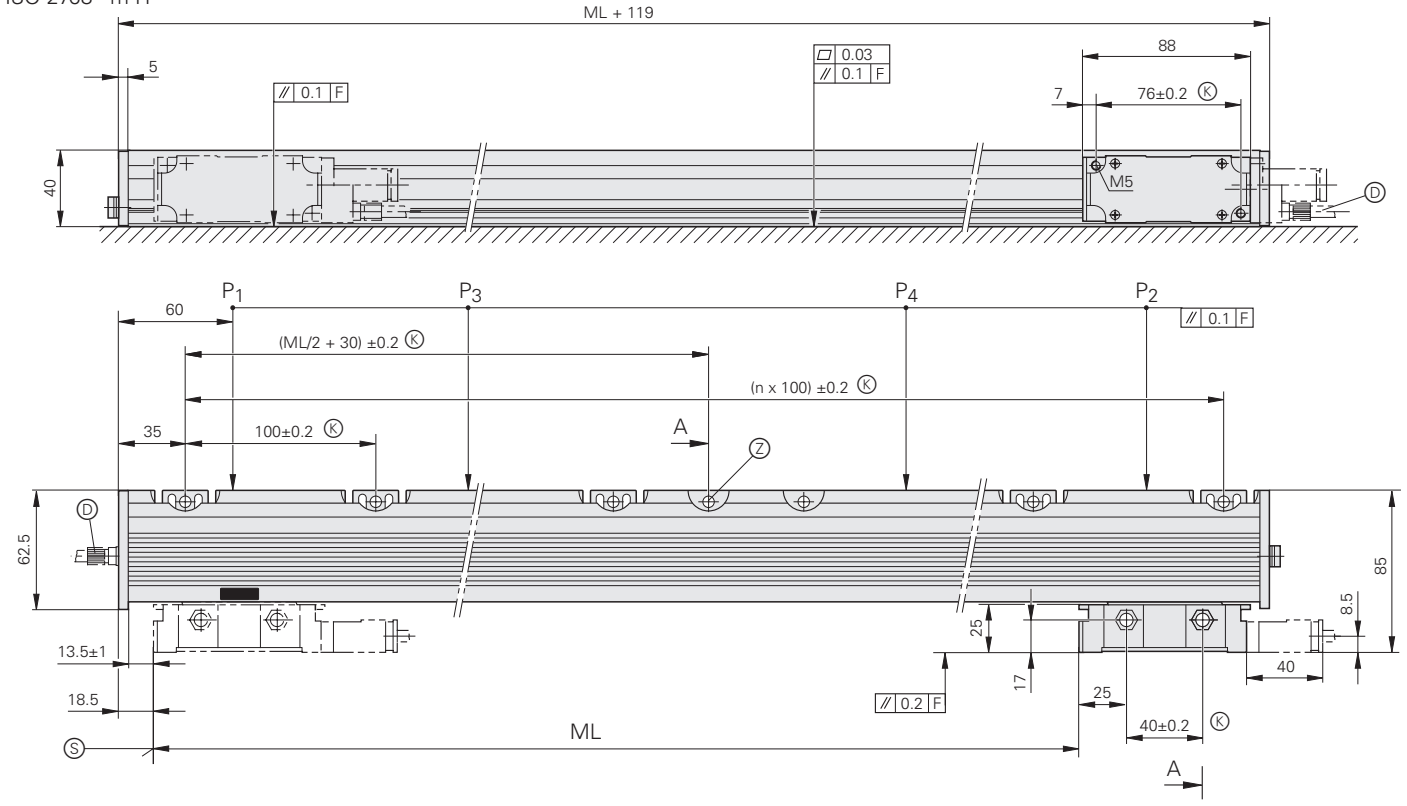

1.
TORX T10


2.
3
4.
180°
6.
5.


**Md** = 0.8 Nm
7.
**Md** = 0.8 Nm
10.
9.
**Md** = 1 Nm
**Md** = 0.8 Nm
8.

mm

DIN ISO 8015
ISO 2768 - m H



F = Maschinenführung
*Machine guideway*
guidage de la machine
*guida della macchina*
guía de la máquina

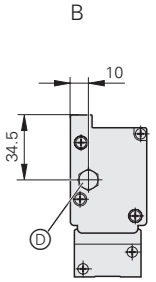
Ⓓ = Druckluftanschluss
*Compressed air inlet*
raccordement d´air comprimé
*ingresso per pressurizzazione*
conexión de aire comprimido

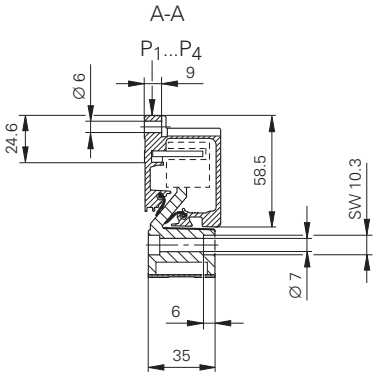
Ⓩ = enfällt wenn (ML/2 + 30)/100 = ganzzahlig
*not applicable, if (ML/2 + 30)/100 is an integer*
inutile si (ML/2 + 30)/100 est un nombre entier
*non vale se (ML/2+30)/100 è un numero intero*
no es aplicable cuando (ML/2 + 30)/100 = número entero

P = Messpunkte zum Ausrichten
*Gauging points for alignment*
points de mesure pour dé gauchissage
*punti di misura per allineamento*
puntos medición alineamiento

Ⓢ = Beginn der Messlänge ML
*Begin. of meas. length ML*
début longueur utile ML
*inizio lunghezza di misura ML*
comienzo longitud útil ML

Ⓚ = Kundenseitige Anschlussmaße
*Required mating dimensions*
conditions requises pour le montage
*dimensioni di collegamento lato cliente*
cotas de montaje requeridas

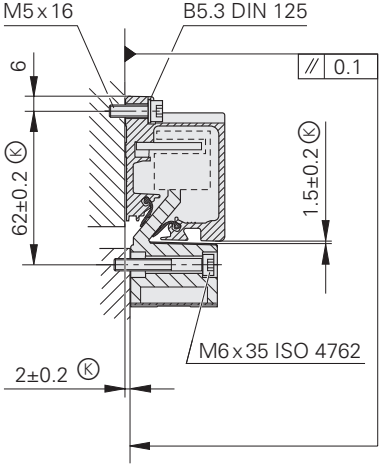


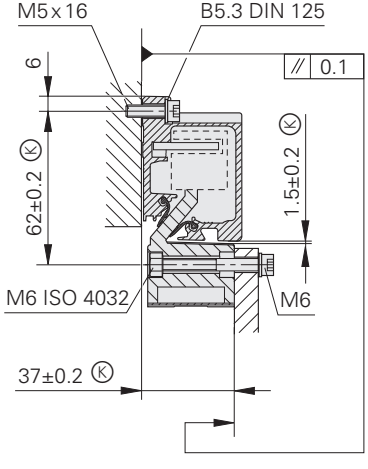
Ⓘ Ⓘ Ⓘ = Montage-Möglichkeiten
*Mounting possibiles*
options de montage
*possibilità di montaggio*
posibilidades de montaje

Ⓚ = Kundenseitige Anschlussmaße
*Required mating dimensions*
conditions requises pour le montage
*dimensioni di collegamento lato cliente*
cotas de montaje requeridas

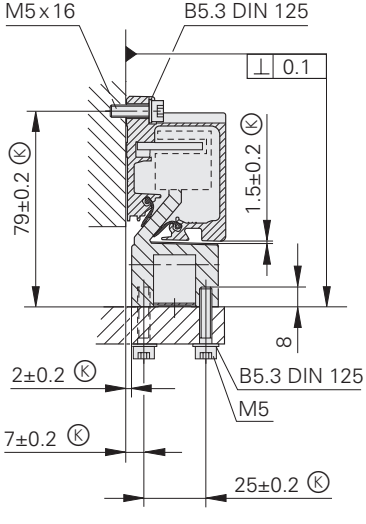
Ⓘ

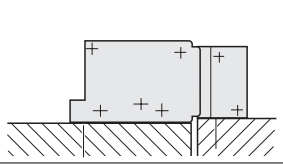


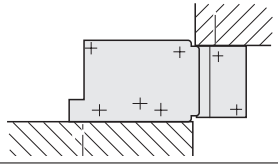

Ⓘ Ⓘ

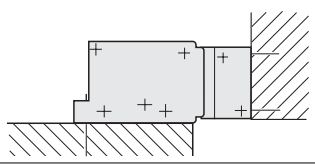


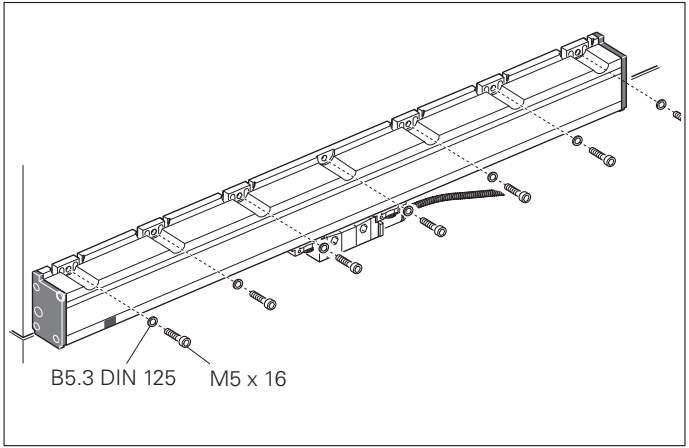

Ⓘ Ⓘ Ⓘ

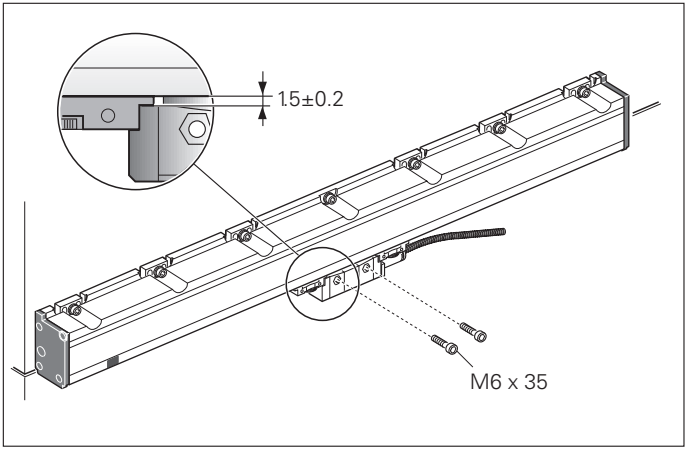


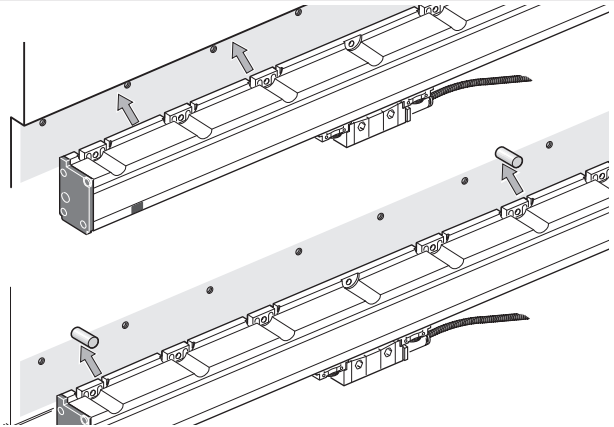


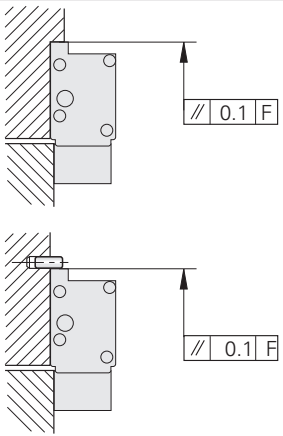





zusätzliche Anbaumöglichkeiten
*Additional mounting options*
Possibilités de montage supplémentaires
*Altre possibilità di montaggio*
Posibilidades de montaje adicionales





P = Messpunkte zum Ausrichten
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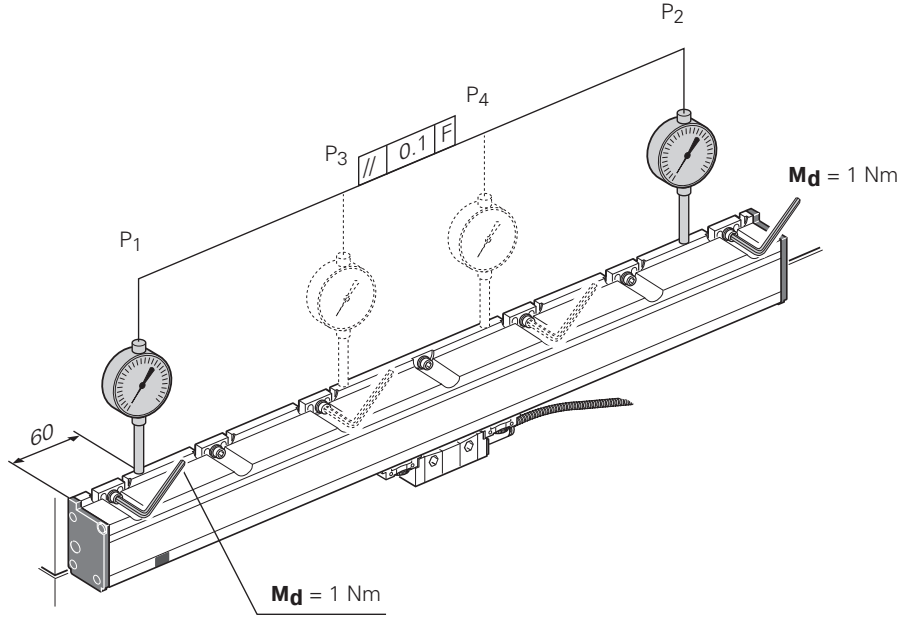



| ML | |
|---|---|
| ≤ 840 mm | **2x** |
| ≤ 1740 mm | **3x** |
| ≤ 3040 mm | **4x** |

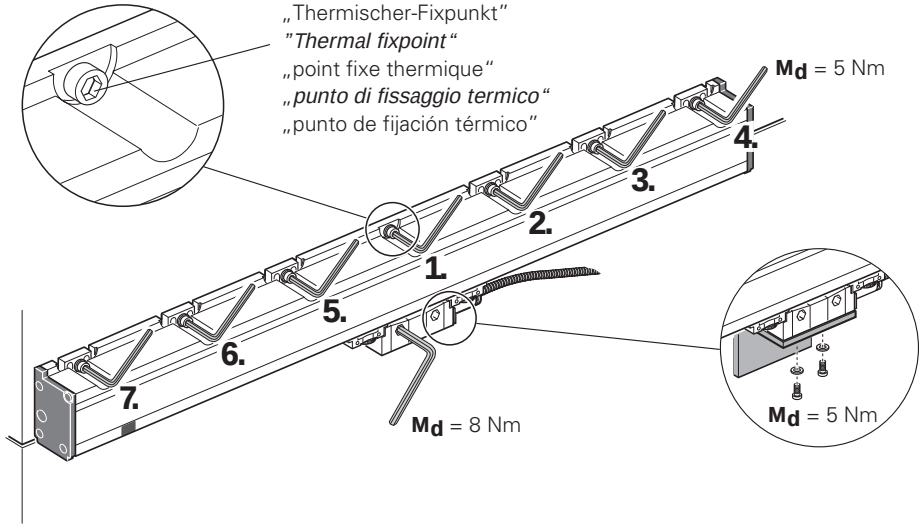
Befestigungsreihenfolge beachten
Mittlere Befestigung zwingend notwendig („Thermischer Fixpunkt“)

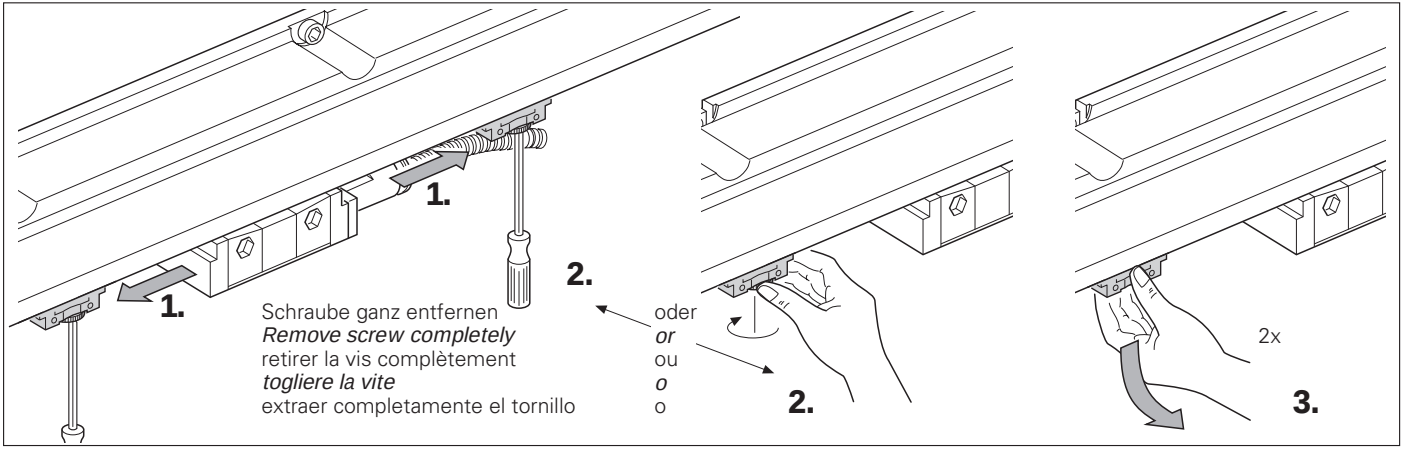
*Use the correct sequence when fastening*
*Mid-point must be fastened (“thermal fixpoint“)*

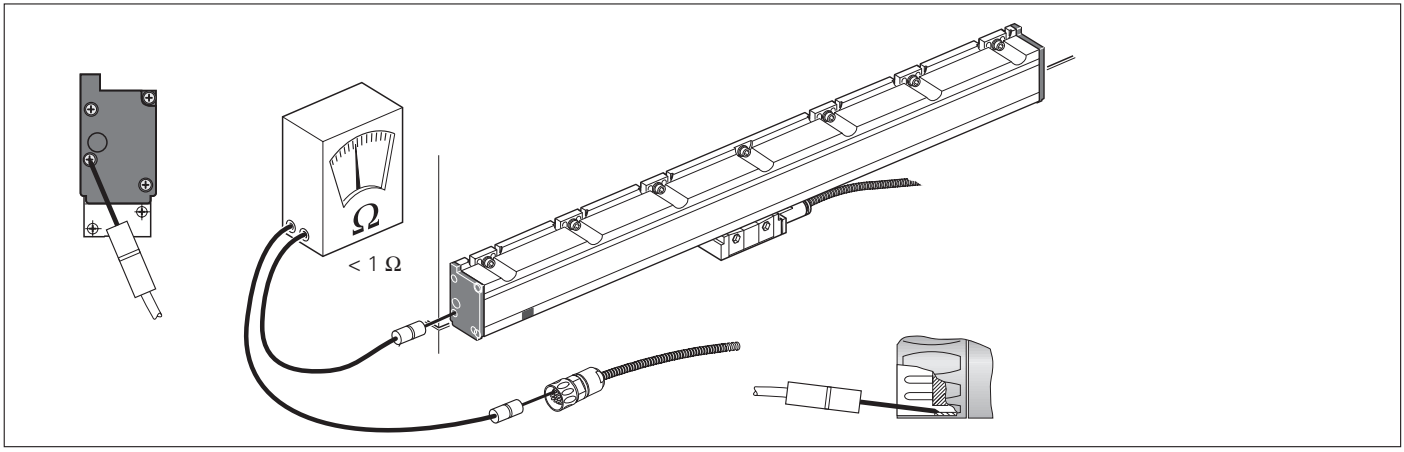
Respecter l‘ordre chronologique de la fixation
Fixation centrale impérative („point fixe thermique“)

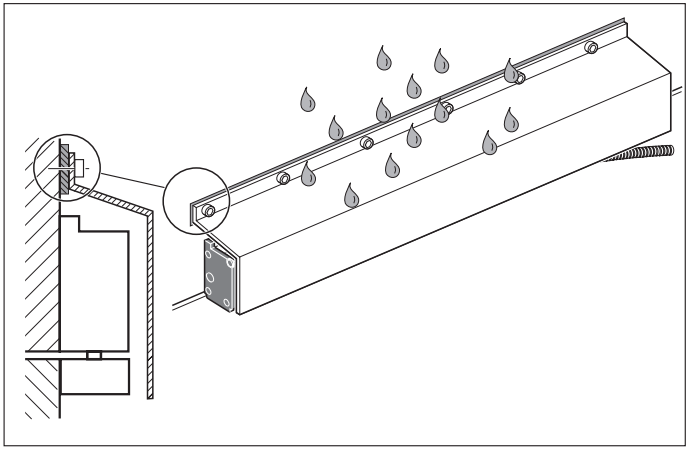
*Attenzione alla sequenza per il fissaggio*
*Ii punto di fissaggio centrale è obbligatorio („punto di fissaggio termico“)*

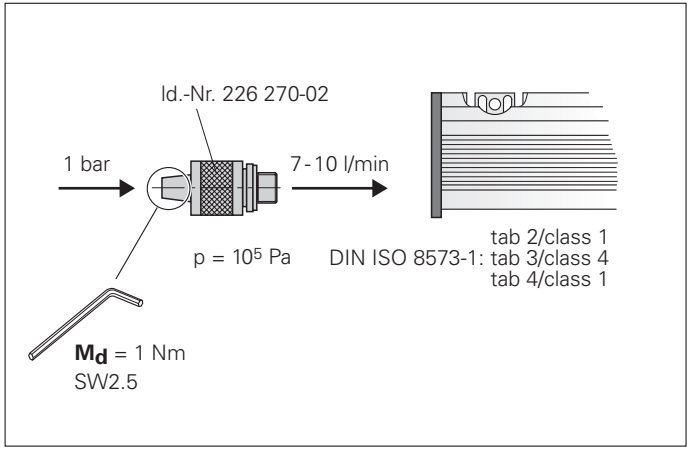
Tener en cuenta la secuencia de sujeción
Sujeción central necesariamente obligatoria („Punto de fijación térmico“)



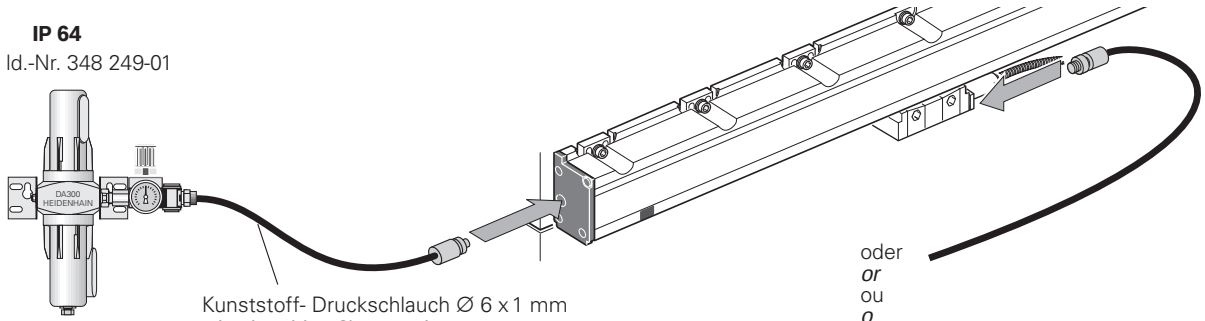

1.
1.
2.
Schraube ganz entfernen
*Remove screw completely*
retirer la vis complètement
*togliere la vite*
extraer completamente el tornillo
oder
*or*
ou
*o*
o
2.
2x
3.


Ω
< 1 Ω





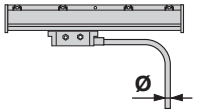
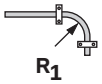
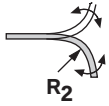

**IP 64**
Id.-Nr. 348 249-01

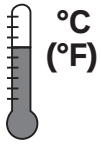


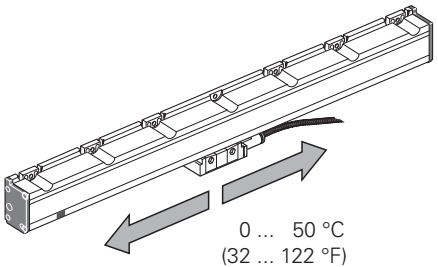

**DA 300**

Kunststoff- Druckschlauch Ø 6 x 1 mm
*Plastic tubing Ø 6 x .01 in.*
tuyau plastique Ø 6 x 1 mm
*guaina in plastica Ø 6 x 1 mm*
tubo de plástico Ø 6 x 1 mm

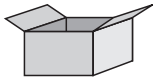
oder
*or*
ou
*o*
o

|  |  |  |
|---|---|---|
| **Ø 6 mm** | $R_1 \geq 20$ mm | $R_2 \geq 75$ mm |
| **Ø 10 mm** | $R_1 \geq 35$ mm | $R_2 \geq 75$ mm |
| **Ø 8 mm** | $R_1 \geq 40$ mm | $R_2 \geq 100$ mm |



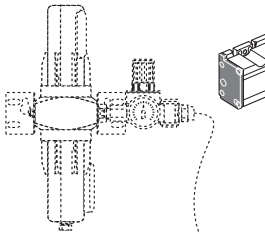



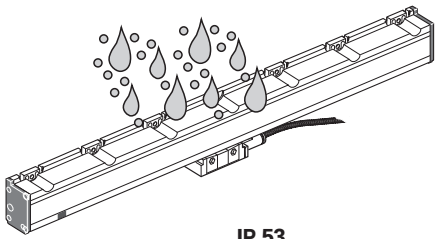
0 ... 50 °C
(32 ... 122 °F)



–20 ... 70 °C
(– 4 ... 158 °F)

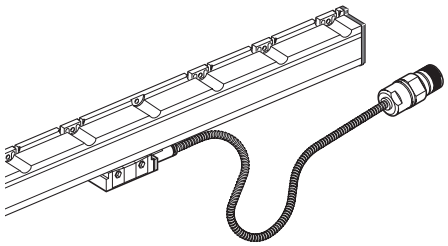
**IP 64**
EN 60 529





**IP 53**
EN 60 529

**DA 300**



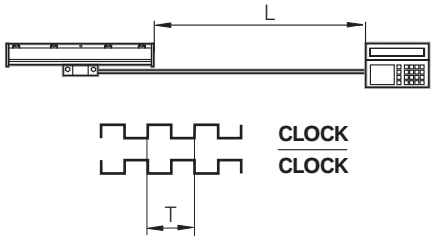
RS-485

**CLOCK**

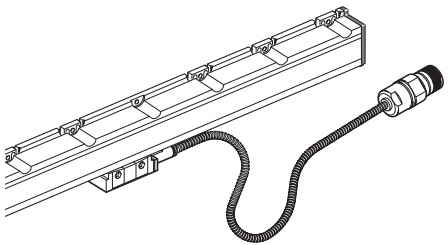
**$\overline{\text{CLOCK}}$**

**$U_P$ = 5 V ± 5 %**
(max. 300 mA)

EN 50 178/4.98; 5.2.9.5
IEC 364-4-41: 1992; 411(PELV/SELV)
(siehe, ***see,*** voir, ***vedi,*** véase
HEIDENHAIN D 231 929)




| L | T | | f |
|---|---|---|---|
| 10 m | 0.5...10µs | ≙ | 2000...100 kHz |
| 50 m | 1 ...10µs | ≙ | 1000...100 kHz |
| 100 m | 2.0...10µs | ≙ | 500...100 kHz |
| 150 m | 3.3...10µs | ≙ | 300...100 kHz |



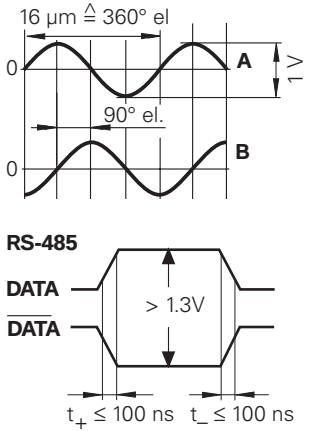
**A** (16 µm ≙ 360° el)

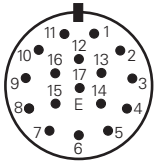
**B** (16 µm ≙ 360° el)

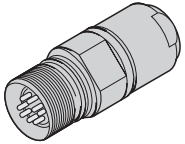
**DATA**

**$\overline{\text{DATA}}$**

RS-485



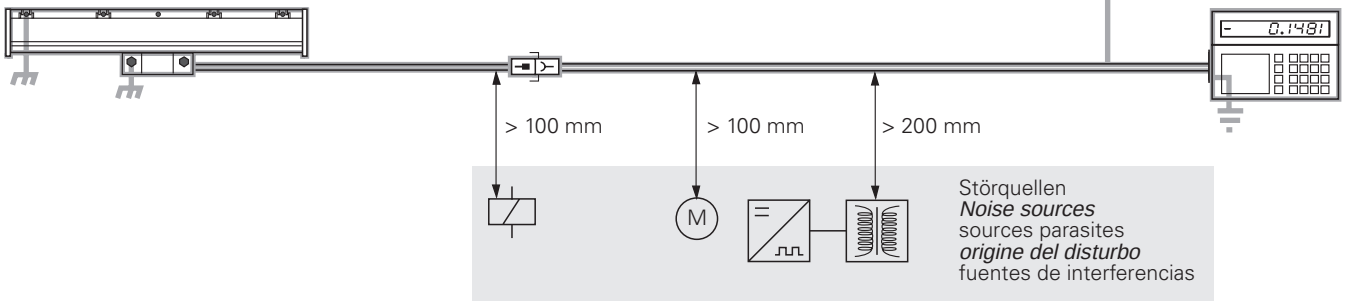


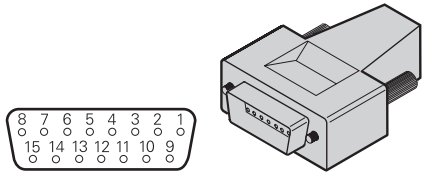



1) Außenschirm Gehäuse
*External shield on housing*
blindage externe sur boîtier
*schermo esterno sulla carcassa*
blindaje externo a carcasa

2) Innenschirm
*Internal shield*
blindage interne
*schermo interno*
blindaje interno

| 15 | 16 | 12 | 13 | 14 | 17 | 8 | 9 | 7 | 10 | | 1 | 4 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | | **B** | | **DATA** | **$\overline{\text{DATA}}$** | **CLOCK** | **$\overline{\text{CLOCK}}$** | **5 V $U_P$** | **0 V $U_N$** | 1) | **5 V sensor** | **0 V sensor** | 2) |
| + | – | + | – | | | | | | | | | | |
| grün/schwarz<br>*green/black*<br>vert/noir<br>*verde/nero*<br>verde/negro | gelb/schwarz<br>*yellow/black*<br>jaune/noir<br>*giallo/nero*<br>amarillo/negro | blau/schwarz<br>*blue/black*<br>bleu/noir<br>*azzurro/nero*<br>azul/negro | rot/schwarz<br>*red/black*<br>rouge/noir<br>*rosso/nero*<br>rojo/negro | grau<br>*gray*<br>gris<br>*grigio*<br>gris | rosa<br>*pink*<br>rose<br>*rosa*<br>rosa | violett<br>*violet*<br>violet<br>*viola*<br>violeta | gelb<br>*yellow*<br>jaune<br>*giallo*<br>amarillo | braun/grün<br>*brown/green*<br>brun/vert<br>*marrone/verde*<br>marron/verde | weiß/grün<br>*white/green*<br>blanc/vert<br>*bianco/verde*<br>blanco/verde | | blau<br>*blue*<br>bleu<br>*azzurro*<br>azul | weiß<br>*white*<br>blanc<br>*bianco*<br>blanco | |



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blindage externe sur boîtier
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blindaje externo a carcasa

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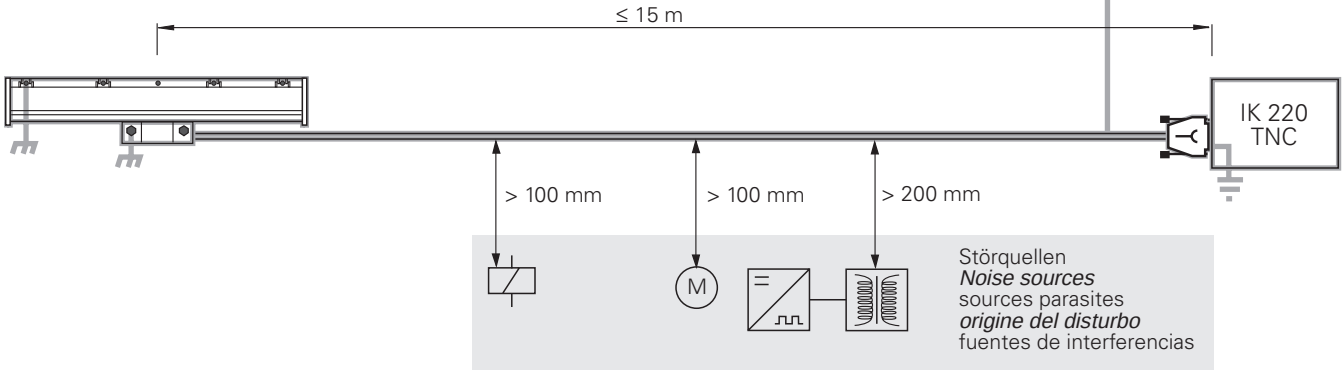
*Internal shield*
blindage interne
*schermo interno*
blindaje interno

| 3 | 4 | 6 | 7 | 5 | 8 | 14 | 15 | 1 | 2 | | 9 | 11 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | | **B** | | **DATA** | **$\overline{\text{DATA}}$** | **CLOCK** | **$\overline{\text{CLOCK}}$** | **5 V $U_P$** | **0 V $U_N$** | 1) | **5 V sensor** | **0 V sensor** | 2) |
| + | – | + | – | | | | | | | | | | |
| grün/schwarz<br>*green/black*<br>vert/noir<br>*verde/nero*<br>verde/negro | gelb/schwarz<br>*yellow/black*<br>jaune/noir<br>*giallo/nero*<br>amarillo/negro | blau/schwarz<br>*blue/black*<br>bleu/noir<br>*azzurro/nero*<br>azul/negro | rot/schwarz<br>*red/black*<br>rouge/noir<br>*rosso/nero*<br>rojo/negro | grau<br>gray<br>gris<br>*grigio*<br>gris | rosa<br>*pink*<br>rose<br>*rosa*<br>rosa | violett<br>*violet*<br>violet<br>*viola*<br>violeta | gelb<br>*yellow*<br>jaune<br>*giallo*<br>amarillo | braun/grün<br>*brown/green*<br>brun/vert<br>*marrone/verde*<br>marron/verde | weiß/grün<br>*white/green*<br>blanc/vert<br>*bianco/verde*<br>blanco/verde | | blau<br>*blue*<br>bleu<br>*azzurro*<br>azul | weiß<br>*white*<br>blanc<br>*bianco*<br>blanco | |



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